ROCHESTER HISTORY

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Vol. XI. July, 1949 Nos. 3 and 4

Rochester and the Erie Canal

by BLAKE MCKELVEY

The all-absorbing topic, 125 years ago, in Rochester as in most of the other small villages and the isolated farmhouses of up-state New York, was the Erie Canal. A later and more securely established generation would describe the original waterway with some disparagement as Clinton's Big Ditch, but to its builders, and to the early residents along its route, it was the Grand Canal. They knew something of the labor expended in its construction; they learned by experience how much more revolutionary its influence was to be than even its most ardent supporters had imagined. And nowhere on its entire route was the impact of the canal more immediate or more far-reaching than at the Genesee crossing where a struggling village was suddenly transformed, within a decade, into a prosperous and dynamic city.

Much has been written about the canal's contributions to the economy of New York State and to national unity, and these are, of course, the proper grounds for its appraisal. However, since the Erie Canal played such an important role in the early development of the Flour City, there is need for a fuller study of its specific contributions to the growth of Rochester. We must take note of the local problems the canal created as well as those it solved, the volume and character of the freight and passenger loads it brought in and carried out, the struggle to maintain and improve its services, and the economic and evolutionary forces which finally brought its career to an end in 1919.

ROCHESTER HISTORY, published quarterly by the Rochester Public Library, distributed free at the Library, by mail 25 cents per year. Address correspondence to the City Historian, Rochester Public Library, 115 South Avenue, Rochester 4, N.Y.

Planning and Building the Canal

The first great boon to the struggling village at the falls of the Genesee came from the State's decision in 1817 to build a canal connecting Lake Erie with the Hudson River. The early canal advocates had proposed a channel extending up the Mohawk valley to Oneida Lake and thence down the Oswego River to Lake Ontario. If the Oswego Canal had been built first (rather than in 1829, four years after the Erie's completion), its more limited trade advantages would very probably have discouraged further canal construction. Oswego would have become the up-state metropolis, and, although a secondary lake port would have developed at Charlotte, the railroads of a later generation would very probably have made Canandaigua and Batavia the principal inland cities. Fortunately for the growth of Rochester, these possibilities were all set aside by the outbreak of the War of 1812 which persuaded the promoters of a western canal to insist upon an inland route free from the possible ravages of a British fleet on Lake Ontario.

The feasibility of an interior route had already been determined. The legislative authorization for a canal survey in 1808 had directed the surveyor to explore the possibility of an interior route if that should seem desirable. Accordingly, late in December that year, James Geddes, the surveyor in charge, made a hasty trip westward to the Genesee River in an effort to determine the height of the watershed separating that valley from the Montezuma marshes. Much to his amazement, the only considerable obstacle that appeared was the deep Irondequoit valley, and we can imagine his delight as he moved his instruments forward from summit to summit along a row of hills which promised an easy means of bridging that depression. It was this apparently miraculous route (provided by the glaciers two hundred thousand years ago) which ultimately brought the canal to Rochester.

However, if the War of 1812 deflected support from an Oswego canal, it likewise added several years of rapid growth to the state-road settlements stretching from Utica westward through Auburn, Canandaigua, and Batavia to Buffalo. It was from these thriving villages that the renewed demand for a western canal developed after the war, and their petitions naturally recommended a route convenient to their use. A second survey by James Geddes in 1816 again

charted a route which crossed the Genesee in the vicinity of the milling hamlet that had sprung up at the falls since his earlier visit. Pressure from the larger state-road villages prompted a careful survey of a southern route. It was soon discovered that a winding canal could be built around the hills along the state road but that its operation would require a diversion to the canal of all water heads on which the millers in these villages relied for power. Faced with this alternative, the older villages swung their support to the northern route strongly favored by the surveyors. Rochester was thus assured a canal—provided the state could build and maintain such an ambitious project.

Although the act of 1817 did not finally determine the canal's route or appropriate funds for its extension beyond the Seneca River basin, further surveys were made, and in April, 1819, the Canal Commissioners were empowered to negotiate contracts for the western section. Another six months slipped by before any such contracts were let, for the pressure of those seeking to divert the canal to Oswego was still very strong, but the petitions of western settlers and the arguments of eastern merchants, who now began to see the potentialities of a water-level connection with the upper lakes, finally brought action on the western section that October.

Some real advantages were reaped from these delays. The Geddes survey of 1816 had proposed a Genesee crossing behind a ten-foot dam to be constructed a half mile or more south of the Rochester bridge. Fortunately the hazardous nature of such a project was demonstrated when a flood in November, 1817, swept away an 18-inch milldam near that point, inundating part of the village at the same time. The experience gained by the canal builders on the central section, where aqueducts over the Oneida and Onondaga creeks had proved satisfactory, together with the discovery of a water-proof lime or cement which facilitated the construction of under-water masonry, encouraged the Canal Commission to bridge rather than dam the Genesee. Accordingly, a contract was let in June, 1821, for a stone aqueduct to be located 80 rods south of the Rochester bridge. This decision not only channeled the canal trade into the center of town but also gave the community one of the most imposing structures on the entire canal and provided a busy construction job for the next two years.

Rapid progress was meanwhile occuring at the construction camps

east of Rochester. Work had commenced on the middle section near Rome on July 4, 1817, and two years later, just as that section was opening to traffic in October, contracts were let and construction was commenced at Palmyra on the western section. The major part of the stretch between Rochester and the Montezuma marshes was built during the next season, but the many difficulties presented by the deep Irondequoit valley delayed its completion. The proposed embankment had been given up in favor of a wooden trestle when the first bids for the dirt fill proved exorbitant. Fortunately, a new and much lower bid enabled the commissioners to switch back to the original plan in 1821. The embankment had to be raised to a height sufficient to carry the canal across the valley 65 feet above the surface of the creek which passed through a stone culvert at its base. Three gravel hills or drumlins, deposited in the valley during the glacial period, served as natural piers between which the embankment extended a total of eighty rods, reenforced by more than 900 log piles. Frequent breaks were to occur, particularly during the early years before the loose earth had settled, but for decades visitors to western New York never failed to marvel at this man-made ridge bearing a canal high above the tree tops and farmhouses in the valley below.

A feeder, tapping the Genesee on the east side above the rapids, was constructed in the spring of 1822. Boats began to ply back and forth between east Rochester and Pittsford in July that year, accepting merchandise which was then hauled two miles by road from Pittsford to Hartwell's basin east of the unfinished embankment, whence it could travel by boat all the way to Little Falls. The embankment was completed by the middle of October when a timely fall of rain up the valley enabled the Genesee to supply the canal with sufficient water for the rest of the season. A collector's office was opened at Rochester and a score of boats already constructed in the village, together with several from up the valley which entered the canal through the feeder, hastily pulled out for the east with capacity loads. West-bound boats began to arrive, and one brought a load of eight families numbering 60 persons, whose passage from Utica to Rochester, a distance of 150 miles, had cost $1.50 each.

Whether this first boat load of "emigrants" settled at Rochester or continued the journey westward by land, the village was already experiencing the canal's stimulus. A local census taken in September,

1822, found a total of 3130 living within the village limits, two thirds of them on the west side of the river. The editor of the weekly *Telegraph,* reporting these figures with pride, noted that Rochester had more than doubled its population since October, 1820, when the Federal census had credited the village with 1502 inhabitants.

Part of this increase was definitely attributable to the canal, for at least 400 laborers housed in two construction camps were included. The biggest local project was the aqueduct, of course. When first started in the fall of 1821, William Britton, the contractor who had just finished building the new state prison at Auburn, brought a work force of 28 convicts along to help prepare the stone. Others were added from time to time and housed on the island formed by the Rochester and Fitzhugh race, but the problem of guarding this force and of recapturing those who seized inconvenient moments to escape soon demonstrated the unsatisfactory character of forced labor. Most of the work of the first months had to be charged off to experience, in any case, for the foundations of the west pier, laid that fall, were carried away by the ice during the winter months. The sudden death of William Britton in December brought the first contract to an unsuccessful end.

Rapid progress was made the next year under a renewed contract. The piers were sunk a half foot or more into the rock bed of the river and bolted to the stone bottom. Iron clamps were fitted into holes drilled in the massive stone slabs used for the piers and the arches. When the stone of the first quarry opened at Carthage proved unsatisfactory, two others were uncovered before suitable sandstone could be found. A quantity of grey limestone was brought from Cayuga the next year for coping stone. These problems, added to the difficulties encountered in assembling a sufficient labor force, most of it recruited from the first wave of Irish immigrants, brought delays and mounting costs. The aqueduct was not completed until September, 1823, eleven months after the date contracted for, and the cost had increased to $83,000. Although there was some criticism over the delay and the added cost, the massive character of the stone structure—802 feet long with nine 50-foot arches and two smaller arches at the ends carrying the 17-foot trough of the canal across the river in majestic fashion—attracted enthusiastic admiration.

A series of celebrations marked the canal's progress. Rochester papers noted with interest the ceremonies held at Rome, Utica,

Palmyra and other eastern ports when the canal opened for business in those localities. Rochester might have celebrated in its turn when the canal reached the eastern bank of the Genesee, but as most of the merchants lived and worked on the west side there was little rejoicing until the aqueduct was successfully completed. The workmen engaged on the job were the first to celebrate, gathering at nine o'clock on September 10 to hear a speech by one of their fellows and to receive their final payments from the contractors. The public celebration was delayed another four weeks to permit the commissioners to inspect and accept the job and to allow water from the feeder to flow westward into the level stretch between Rochester and Brockport.

Rochester's celebration was a gala occasion. A procession of canal officials and local dignitaries marched to Gilbert's basin on the east side on the morning of October 6 and boarded two decorated packets and several freight boats. Amidst a blare of horns and the cracking of whips, the flotilla proceeded slowly across the aqueduct. A salute was fired by Captain Whitney's militia company as the first boat approached the west side. The village band, stationed on the bridge over the canal at Exchange Street, struck up the Masonic tune, "The Temple's Completed," while the boats continued their slow course through the central part of the village to the basin near Brown Street on the western outskirts. After swinging about in that large basin, the flotilla returned to Child's basin near the western end of the aqueduct where "the throne of grace was addressed by the Rev. Dr. Penney and an eloquent oration [was] delivered by the Hon. Ashley Sampson." Leading citizens then accompanied the canal dignitaries to Christopher's tavern for a sumptuous repast presided over by the venerable Colonel Rochester. The last of the 25 toasts was pledged "To the ladies of Rochester—the brightest ornament of our day's celebration."

The speeches and toasts, which no doubt seemed extravagantly ambitious, proved for once to be hopelessly inadequate. No one as yet gauged the tremendous and far-reaching influences of the canal. The *Telegraph* had boasted early that May that Rochester had already shipped 10,450 barrels of flour during the first ten days of the canal season, but these figures were soon overshadowed. The 58 boats dispatched in this period had been replaced by 45 west-bound boats which unloaded more than 4000 gallons of beer, 2300 gallons of

whiskey and other miscellaneous supplies at the Gilbert basin. The exports, in addition to the flour, included 417 barrels of pork and many forest products. Two rival packet lines scheduled daily boats which ran back and forth between Rochester and Utica in 48 hours, connecting with other boats for Schenectady, now the canal's eastern terminus. Freighting facilities were increasing and one company advertised a chain of boats serviced by secure warehouses at all principal ports. The tolls collected at Rochester that year totaled $9,802, which impressed observers as a respectable figure. Local residents, many of whom had enjoyed until recently the advantages common to New England villagers, must have rejoiced even more to read in October of the arrival of a boat load of "OYSTERS."

Trade opened with astonishing vigor the next spring. Although the rival packet lines had already merged, two boats left Rochester daily for the East, charging a fare of $6.40 to Utica, and $9.90 to Schenectady. Despite the combine, such exorbitant rates could not be maintained, for many of the less elegant freight boats welcomed passengers, and the packets had to cut their fares 70% before the close of the season. A Rochester packet began running westward to Brockport in June and by September, when the canal opened to Lockport, made that port its daily objective. The *Telegraph,* beginning to sense the dynamic forces at play, reported with gusto on June 1, "Our basins and wharves presented yesterday morning the appearance of a bustling commercial town—forwarders and clerks, wagons and boatmen, all confusion and hurry; boats arriving and departing constantly."

Of course the potentialities of the new waterway were still but faintly apparent. The canal itself was not yet finished although an active commercial season was enjoyed (with the aid of two carries) along the entire route. The remarkable succession of locks, which lowered the canal through a gap in the "mountain ridge" east of Buffalo and gave birth to Lockport, was not finally ready for use until October, 1825. The official announcement of the canal's completion was flashed eastward by widely spaced cannon on October 26. The good news resounded through Rochester at 10:20 that morning, reaching New York City an hour later and returning over the same route to Buffalo by 12:40 P.M. The opening celebration had likewise commenced at 10 o'clock that morning when Governor Clinton and his party embarked on a flotilla of packet boats at Buffalo, stopping

briefly at Lockport and reaching Rochester the next afternoon at three and New York by 9 A.M. on November 4.

Despite a cold rain on October 27, large crowds filled all vantage points along the canal in Rochester. Eight militia companies from the village and surrounding towns marched in uniform, firing salutes from successive street crossings. Local officials, assembled on a packet which bore Rochester's current nickname, "Young Lion of the West," awaited the flotilla at the western end of the aqueduct. After suitable greetings, the Rochester and Canandaigua committees, headed by General Vincent Matthews and Honorable John C. Spencer, led the Governor's party to the Presbyterian church overlooking the canal. The official ceremonies opened with a prayer by the Reverend Joseph Penney, and an eloquent address was pronounced by Timothy Childs, Esq. The company then proceeded to Christopher's Mansion House for a sumptuous banquet over which General Matthews presided as toastmaster. The feast continued until 7 o'clock when the Governor's party, amidst salutes from the local militia, reembarked to continue the triumphal journey eastward. The "Young Lion of the West," manned by a Rochester delegation and loaded with barrels of flour and other products of the village, joined the flotilla. Those left behind continued the local celebration far into the night with a grand ball and a general illumination of the village.

The Canal and the Boom Town

Although the canal raised unexpected problems shortly after its completion, the great benefits it conferred were evident on all sides, particularly at Rochester. The Erie was destined to serve for many decades as Rochester's chief commercial artery, but only in the first years was the impact explosive. The village which had suddenly mushroomed to 5273 during the hectic years of the canal's construction, developed rapadily into the world's leading Flour City, attaining a population of 12,252 before the first city charter was adopted in 1834.

The rapidity of Rochester's growth, as compared with other inland canal ports, was due largely to the Genesee River which served both as an intersecting commercial highway and as a source of power. The rafts that had brought the products of forest and farm down the river in increasing volume during the preceding decade were now supplemented by scows and arks and a flat-bottomed steamboat to

tow them upstream for repeated trips. About five million feet of sawed lumber came down the river annually by 1827, in addition to the logs floated down in great cribs to make possible nearly double that output from nine sawmills of Rochester. At one time forty such cribs were tied up above the rapids awaiting high water to flood them over the dam to the lumber yards below. Great quantities of grain and other farm produce reached Rochester by the same route or over the new turnpikes that now began to fan out from the busy mill town and canal port.

Such a community required extensive docking facilities. Even before the canal was completed, a half-dozen basins or slips had been constructed along its course. Gilbert's and Johnson's basins near the weighlock on the east side facilitated the transhipment of valley produce from flatboats and barges to canal freighters. Barrels of potash and great bundles of staves, prepared at up-river homesteads during the winter months, thus joined the eastward flood of canal trade without delay, while sacks of grain and other raw materials were unloaded at west-side basins for processing by the millers and other craftsmen of Rochester prior to shipment eastward. More than a dozen such basins, slips, and boat docks served the community at one time and another during the early years.

Child's basin, long the most active in Rochester, was situated north of the canal at the western end of the aqueduct. Here, in a harbor covering the old millyard between the scattered shops on Exchange Street and the mills bordering the race, packet boats loaded and unloaded their passengers a short distance from the central Four Corners while freight boats pulled up to the mill docks to unload or take on cargoes. So busy was this central harbor that strict regulations were adopted to control the entry and movement of boats. Undeveloped lots in the vicinity were quickly improved, and near-by Exchange Street, previously known as Mill Street, acquired its new name in 1828 as more descriptive of the new enterprise which now made it a strong rival of Buffalo Street for priority.

Several of these basins served during the first winters as boat yards, but Rochester was soon well equipped with six year-round boat yards. The supply of pine logs floated down the river from the forest-covered hills to the south, and the convenient access by lake to the vaster Canadian forests, gave Rochester advantages unrivaled elsewhere along the canal. Local sawmills and the vigorous building

trades attracted artisans whose skills fitted them for jobs in the boat yards or at the new furniture factories which soon appeared at Rochester. A few local boat builders specialized in fine packets, and perhaps the finest of the early years was the "Superior," built at Rochester in 1829 by S. C. Jones. Equipped with washrooms and a bar, the cabin ornamented with scenic paintings by Daniel Steele, this palatial boat set a new standard for traveling comfort and elegance.

Inevitably, the new activity brought by the canal created fresh problems and intensified several which had previously been overlooked. As the canal passed directly under the windows of the First Presbyterian church, its pastor, the Reverend Joseph Penney, was among the first to register a protest against the canal's operation on the Sabbath. The campaign to close the locks on that day gained strength in Rochester during the late twenties. The *Rochester Observer,* a weekly advocate of moral reform, frequently noted the prevalence among canal passengers, even on a Sunday, of card playing, drinking and other current vices. When the state failed to act, zealous Sabbatarians in Rochester took the lead in organizing a six-day packet company which invited the patronage of devout travelers who did not wish to support its Sabbath-breaking rival. The six-day packets of the "Pioneer Line" prospered, but so did those of its competitor, since the demand for accommodations proved sufficient for all.

Rochester reformers, inspired by the work of the recently established Seaman's Friend societies in Atlantic ports, organized a Boatman's Friend Society in 1830. The response of the canal men, both boatmen and forwarders, was anything but encouraging, and plans to open a special Bethel chapel for their use were dropped when a Boatmen's Mutual Relief Society was organized by the men themselves. Numerous "groceries" opened along the canal each spring, ready to supply liquor and other refreshments at every lock and basin. So many of these "dens of iniquity" appeared on South St. Paul Street and elsewhere in the vicinity of the canal in Rochester that the baffled *Observer* proposed a change in the canal's name from "Clinton's Big Ditch" to "Big Ditch of Iniquity."

The canal's reputation for boisterous and riotous activities was demonstrated on September 22, 1829, when a crowd gathered on the bridge over the canal at Exchange Street to watch a fight between

the crews of two boats disputing the right of way. The incident gained notice only because the bridge gave way, plunging fifty onlookers into the muddy canal.

The opening days each year were always full of excitement. Hundreds of curious citizens eagerly gathered to watch the Big Ditch take on new life. Edwin Scrantom, youthful editor of the town's first literary journal, described the scene in 1831 as follows: "There were in scores, boatmen with their painted hats and everlasting coats, marching to and fro, making remarks upon the canal, etc. There were, also, the impudent drivers with hats turned up before, and whips tipped with plenty of silk. . . . We could see that many a rusty bugle had been brightened for the coming season. . . . The dealers in small wares that line the canal in the summer season were all in motion bringing up their cookrooms and buying up a stock. Among this class a variety of kegs and bottles made glad the hearts of the wanton and inveterate."

In a sense the canal merely channeled to Rochester what many a natural highway had brought to other towns, yet it was not quite the same. Books and pamphlets, musical instruments, works of art and similar cultural paraphernalia, as well as oysters and other commercial products of the East and of Europe, found an easier path to the Genesee, but again this was not all. The sudden opening of a new man-made trade artery added an element of drama to the situation. Moreover, the presence in and near Rochester of two of the most impressive engineering works of the entire canal—the aqueduct and the great embankment—compelled all visitors to pause at the Genesee to marvel at man's remarkable achievements. One look around generally convinced them, as it did Mrs. Basil Hall in 1827, that "Rochester is the best place we have yet seen for giving strangers an idea of the newness of this country."

Rochester was of course only the first of a series of American boom towns, and it soon outgrew that category, developing an individuality independent even of the canal. Yet its early character was suggested by the items listed among the canal's imports and exports. From the East in 1829 Rochester received 8,355 tons of merchandise, 811 tons of household furniture and 33,713 barrels of salt for local sale or distribution up the valley. From the West came 7,000 tons of agricultural produce, most of it grist for Rochester's mills, which shipped 173,185 barrels of flour that year. As the principal supply

of grain and forest products still arrived from up the valley, Rochester's canal exports, valued at $1,200,000, exceeded the imports over this route by 20 per cent in 1829.

Rochester's interests in the canal were by no means local or passive. Its boat builders had already begun to dominate that market. Its merchants quickly extended their influence east and west until control was established over six of the leading shipping companies operating 160 boats with 882 horses and mules stationed at convenient stables along the route.

A great furor developed in 1832 when several of these forwarding companies joined with the principal millers of Rochester in a combine which endeavored to fix the price of wheat. Farmers in the area, who had previously balanced the bids of eastern millers against those of Rochester, now found themselves compelled to sell to local millers because of the heavy charge for the transport of grain. Protest meetings in the town of Chili and elsewhere prompted a legislative investigation which verified the existence of a combine, known as the "Telegraph Line." The object, according to its promoters, was to stabilize prices, but the result of the first year's operations was a loss of $12,000 to the backers of the combine, which accordingly disintegrated without legislative action. The chance of effecting a shipping monopoly on the canal, open as it was to all boatmen, was small, and never again was a serious threat made against the free flow of trade on this great public highway.

Another local dispute brought by the canal was not so easily solved. Rochester millers quickly discovered that the water needs of the canal made serious inroads on the Genesee's supply of power, particularly during dry spells. There was little objection to a use of the feeder in the spring months when the river was high and a quick filling of the canal would expedite the shipment of flour ground during the winter. But local millers became very indignant when a season of low water stalled their own water wheels while millers east of Rochester, at the Pittsford locks and at other points along the canal, continued to grind merrily, using an overflow from the canal supplied by the Genesee. The state authorities were persuaded by these protests to curb and ultimately to abandon the practice of leasing the canal's overflow, though of course this did not save any power for the Rochester millers. The only possible relief to millers on the river lay in a sufficient enlargement of the canal west of the Genesee to

bring an adequate flow of Lake Erie water to and beyond Rochester. Local support for the enlargement campaign was greatly strengthened by this consideration.

The Canal and the Flour City

Of course Rochester was not the only town to benefit from the canal, and by the late thirties others were challenging its trade supremacy. Its position as second largest toll collector, exceeded only by Albany (where all west-bound merchandise was loaded in the early years), was lost to Buffalo in 1838. Soon West Troy, Oswego and other ports climbed ahead. However, Rochester added more to the value of its exports than did any of these points of transhipment from lakes, rivers, or lateral canals, for the Flour City was becoming an industrial as well as a commercial center and attained a population of 43,000 by the mid-fifties.

Despite its loss of trade supremacy, Rochester continued to enjoy increasing benefits from the canal. Indeed, the Flour City's tolls, while not matching the advances shown at several other ports, mounted fairly steadily until 1840 when the local all-time peak of $248,210 was reached. Moreover, the uneven decline in the toll collections of the next fifteen years reflected reductions in rates rather than shipments. Thus the number of local clearances continued to climb to the high point of 8,630 in 1847, and, while the figure decreased slightly during the next few years, the introduction of large-size boats more than offset that decline, as far as tonnage was concerned, until the mid-fifties. In fact the value of Rochester's canal shipments only reached its peak, $8,402,530, in 1854, a banner year for local tonnage as well.

These remarkable and sustained increases in the local canal traffic (which were often excelled at other points along the route) were made possible by a number of extensive improvements. The early trade had quickly overtaxed the original canal, revealing many defects in its structure. Traffic jams had developed at almost every lock, for the average time required to pass a boat through a lock was eleven minutes. The demand for double locks, each of larger capacity than the original structures soon became insistent, stimulating a more ambitious campaign for the entire canal's enlargement.

Rochester's interest in this movement sprang from its concern over the aqueduct. The sandstone of the original structure was in

fact beginning to crumble. Many leaks had developed as any observer could see during winter months when icicles formed under the arches like stalactites in a cave. Criticism of the builders was hardly to the point, since knowledge of the durability of various kinds of stone was still most imperfect. Experiences had taught that a grey limestone used in aqueducts and locks further east proved superior to the sandstone chiefly relied on at Rochester. However, the leaks in the aqueduct were not its only flaws. The 17-foot width of its water trough was presenting a double drawback to the canal's development. One-way traffic was of course enforced, which gave rise to desperate fights when impatient boat captains, entering from opposite ends, disputed the right of way. Even more serious, from the viewpoint of Rochester millers, was the check which the narrow trough placed on the flow of Lake Erie water across the river to supply the east side. Many tests revealed that the chief supply east of the Genesee came from the river itself.

Almost everybody agreed by the mid-thirties that a new aqueduct was needed, and act of 1835 authorized its construction but failed to provide any funds. The demand for improvements all along the line was so great that any enlargement program was out of the question unless approval could be secured for a new bond issue. Yet many state legislators felt that the enlargement of the Erie should await the completion of the lateral canals, a half-dozen of which were already under construction, extending the benefits of water transport more widely throughout the state. Rochester, likewise interested in such a project, had been agitating for a canal up the Genesee Valley for more than a decade, but without success as yet. The act of 1835, authorizing the Canal Commissioners to undertake an enlargement program based on the canal's surplus income, completely dodged the issue but spurred a group of confident supporters of the canals to action. Under the leadership of Henry O'Reilly of Rochester, numerous canal conventions were held throughout the state, urging a new bond issue to be secured by the expected income from the canal. Finally, in 1837, the legislature endorsed this policy, authorizing the canal board to proceed with contracts for double locks, a wider and deeper channel, a new aqueduct, and the Genesee Valley Canal, all at the same time.

It proved to be a wise and timely decision, at least so far as the Erie Canal was concerned. The volume of traffic more than trebled

during the forties as the enlarged locks (each 110 x 18 feet in size and constructed in piers) and the new 50-foot channel became generally available. Although the enlargement program was suddenly halted by an economy drive in 1842, and was not resumed for another four years, sufficient progress had been made, especially east of Rochester, to relieve congestion at most critical points. It was a slow task, deeply entangled in politics, and the authorized enlargement—from 40 to 70 feet in width and from 4 to 7 feet in depth—was not attained throughout until 1862.

Fortunately the second aqueduct had long since been completed and just in the nick of time. The contract had been let in April, 1837, but many months elapsed before suitable stone began to arrive by canal boat from the limestone quarries opened in the vicinity of Syracuse for this purpose. Heated debate occurred before the location was finally fixed just south of the first aqueduct but slanting upstream on the east side in order to avoid the sharp right-angle turn which had previously obstructed traffic at that point. Much rock was blasted from the bed of the river in preparing solid foundations for the piers and assuring a sufficient depth to permit the free passage of flood waters under the arches. Slowly the massive structure (with its six piers supporting a 45-foot water trough, enclosed to a depth of seven feet by heavy parapet walls topped by a balustraded footpath on the north side and a broad towpath on the south) took its place beside the rapidly crumbling first aqueduct. The cost of the second aqueduct mounted to a total of $445, 347, over five times that of its predecessor, but the expenditure of this huge sum proved a godsend to Rochester during the dark years of the depression which followed the panic of 1837.

Rochester had much cause to celebrate when the second aqueduct was officially opened on April 21, 1842. The first aqueduct had finally lost one of its arches during the preceding winter and was rapidly assuming the appearance of an ancient ruin—an object of charm which would scarcely have been appreciated had the canal not found a new and more satisfactory crossing. The second aqueduct had beat another deadline as well, just escaping the paralyzing grasp of the famous "Stop Law" of 1842, which brought all canal construction to an end that month. No wonder the celebration was so animated that eye witnesses failed to agree as to whether the

"Onneca" or the "Northumberland" was the first boat to make the crossing—perhaps they inaugurated the two-way traffic.

Yet Rochester did not entirely escape the blight of the Stop Law. The southward march of the Genesee Valley Canal was halted at Mt. Morris, less than halfway to its goal, Olean at the headwaters of the Monongahela River. Thus the hope of opening a coal artery and tapping the rich trade of the Ohio River valley was blasted, or at least postponed. The completed section of the valley canal represented a real improvement over the river as a trade artery but at the cost of a considerable diversion of Genesee water from the distraught millers at Rochester. When the Stop Law likewise halted progress on the new double stair of locks at Lockport, thus cutting down the prospect of a more abundant supply of Lake Erie water and western wheat, some Rochesterians lost patience. A minor flood along the old canal feeder east of the river that spring focussed attention on the state dam at the rapids above the city, designed to supply the feeder during dry seasons. Many in Rochester applauded when the Monroe County sheriff dynamited the dam as a public nuisance. The state could still draw Genesee River water into the Erie, through its connection with the Genesee Valley Canal on the western side of town and through the old feeder at high water; but as these sources were precarious an exception to the Stop Law was promptly made, permitting the completion of the new locks at Lockport. The dam at the rapids was not replaced until 1863 when the crisis of Civil War made the community receptive to every precaution designed to safeguard this vital trade artery.

The enlargement of the canal greatly stimulated the boat building activity at Rochester. The six yards of the late thirties became eleven by 1846 when 210 boats, averaging $1300 in value, were turned out, more than double the total produced elsewhere in the state. Many of these boats were sold for use on the new western canals, but Erie Canal replacements were likewise in demand, particularly along the eastern section where the enlargement had been completed. Rochester shippers operated a total of 119 boats that year, barely five per cent of the total on the Erie, in striking contrast to the situation two decades before when the village had controlled about 30 per cent of the canal trade. The fact was that through traffic had commenced in the forties to overshadow the local trade all along the canal and Rochester's proportionate share dropped accordingly.

That the percentage drop did not correctly measure the activity at Rochester was especially evident at the weighlock. The original structure on the east side had been repaired on frequent occasions, but the increased size of boats finally compelled its replacement. An improvised weighlock on the west side served until the new weighlock was completed on the old east side site in 1852. The two-story brick building, with a portico supported on fourteen Doric pillars of Onondaga limestone, was one of the most impressive structures in Rochester, and the operation of its hydraulic scales fascinated countless youngsters and curious visitors for many decades.

The enlargement should have redounded to the comfort of travel by packet boat, but these luxury liners of the thirties were rapidly losing their charm. Canal travel was still considered agreeable for a day's trip in fair weather, but overnight packets met a decreasing demand. On balmy days, when passengers could sit idly on deck as they glided slowly through the fields, some of the old glamor persisted. Mealtimes were often pleasant, as the travelers gathered about a long table set up in the main cabin, with the captain at the head carving a roast and serving heaping plates of food. But only the young could enjoy the crowded sleeping arrangements which lodged each passenger on one of the narrow shelves or hammocks hung at bedtime in three tiers around the cabin walls—the women and children at one end separated from the men's compartment by a heavy curtain. No wonder the traveling public switched quickly to the railroad coaches as soon as they began to challenge the canal's control of the cross-state traffic in the late thirties.

Repeated efforts to adapt steamboats to the canal proved discouraging. Early experiments in the late twenties had produced a destructive wash from the paddle wheels, endangering the mud banks, and the four-mile speed limit, though not always enforced, further discouraged the use of steam. Rochester boat builders made occasional efforts to surmount these difficulties, in 1842, 1858, and repeatedly in the early sixties, but an economical use of steam on the canal awaited the grant of state aid to experimenters in the seventies. Even then its use made but slow headway against the faithful mule teams which continued dominant until the nineties.

However, if the early efforts to adapt steam to the canal proved temporarily unfruitful, the incentive given by the Erie to ingenious craftsmen in Rochester was of great importance. New devices were

developed to weigh canal boats, pump water, lift locks and calk boats; indeed a majority of the 42 patents accredited to Rochester before 1836 pertained in one way or another to Clinton's Big Ditch. Moreover the canal facilitated the importation of heavy ingots for local foundries and tool shops, and, perhaps as a demonstration of its own self-assurance, the canal transported to Rochester the first two railroad engines with which the newly built Tonawanda railroad inaugurated service from Rochester to Batavia in 1837.

The early railroads quickly captured the passenger traffic but did not for several years threaten the canal's freight business. Neither the Tonawanda, nor the Rochester & Auburn (built between 1839 and 1842), nor any of their early successors was sturdy enough to carry heavy freight. Accordingly, as late as 1852, the tonnage carried on the Erie Canal topped that of all railroads in the state by a ratio of thirteen to one, although the mileage of the latter now greatly exceeded all state canals.

The mid-century found the canal trade of Rochester at flood tide. The shipments weighed over 100,000 tons each year between 1847 and 1855, while the value averaged more than $5,000,000 annually. Flour still constituted the most important export, but "merchandise" was an increasingly prominent item. New industries, such as the chair- and cabinet-makers and the nurserymen, found one of their assets to be the cheap transport facilities afforded by the canal. The value of merchandise left at Rochester was not so carefully recorded, but a table kept for 1853 shows a valuation of canal imports several hundred thousand dollars above the exports. Wheat from the West was by this date the predominant item, suggesting that the Flour City had reached a new stage in its development—emerging as an eastern industrial city. Indeed, with its major raw materials flowing in from the West in exchange for merchandise of its own manufacture, Rochester's flour shipments east assured it a fair share of the goods of civilization, cultural as well as material.

Rochester Outgrows the Canal: 1855-1920

The final consolidation in 1853 of the half-dozen railroads, which had joined hands across the state from Albany to Buffalo before the mid-century, effected a turning point in canal history as well as in railroad development. Except for a few local packets (such as those running from Rochester to Brockport, Rochester to Palmyra, and on

similar suburban services during the late forties), the canal had practically abandoned its first-class passenger trade to the railroads. Many captains still loaded their west-bound boats with immigrants, attracted by the cheap fares to Buffalo, returning with a better paying freight of western produce. The possibility that the railroads would make serious inroads on the canal's freight traffic seemed so remote that, despite protests from Rochester and other inland ports, the tolls collected by the state on railroad shipments parallel to the canal during its open season were abolished in 1851.

The New York Central, operating with increasing efficiency during the late fifties, did capture much of the high-value freight within a few years, exceeding the canals in tonnage of freight carried by 1874 and building that leadership up to a ratio of ten to one by 1900. Nevertheless an increased flow of western produce amply sustained the canal. Indeed, the tonnage carried on the Erie Canal mounted, if unevenly, until the eighties when it exceeded that of any previous decade.

Yet Rochester's share in the trade of the canal now suffered a rapid decline. The value of local shipments dropped 65 per cent during the six years following the peak year of 1854, and although the tolls and tonnage declined much less precipitously, it was evident that Rochester was diverting high-value freight to other routes and accepting the status of a way station on the canal. Rochester blamed its declining use of the canal on the many delays in the enlargement program and the slow progress of the Genesee Valley Canal, which did not reach its destination until 1861. In fact the valley canal was a big disappointment, even when finally completed, and its tolls never paid the cost of maintenance, not to mention the interest or principle of the state's investment. The much desired coal barges never materialized, at least not in significant numbers, and the declining productivity of the valley's wheat fields further detracted from that canal's utility. Few mourned when the state finally determined to abandon it in 1878.

The failure of the region's grain resources made Flour City millers more dependent than ever on western producers, and wheat long remained the principal Erie Canal import at Rochester. But the rising competition of western millers prompted local flour merchants to turn increasingly to the railroads in order to reach the market more quickly. Whereas millers of the forties had been leading canal

merchants, those of the late fifties and sixties became railroad men, notably George J. Whitney, owner of the first large grain elevator, director of the New York Central and later president of the Rochester & Pittsburgh Railroad.

Of course many in Rochester could not suddenly forget the city's long attachment to the canal. The efforts of the Clinton League to speed the enlargement program during the late fifties received earnest support in Rochester where several of the League's most active leaders resided. The wisdom of this campaign was vindicated by the great services performed by the enlarged canal during the Civil War. Again the old activity enlivened local canal basins. Earlier tonnage records were equalled and only the peak export values of 1854 and 1855 topped the war-time value of local shipments in 1865.

Carried away by their new enthusiasm for the canal, a few in Rochester urged the state to open a branch canal to the lake port at Charlotte. When a survey indicated that such a project would require the construction of 22 locks within a distance of five miles and would cost at least $900,000, the proposal was quickly dropped. A more practical expression of the city's revived interest in the canal appeared at several boat yards which now again made the headlines. The total value of their products in 1863 exceeded $100,000, and great interest centered on the renewed attempts to utilize steam power. Several steam tugs were in fact successfully operated during the mid-sixties, but only as long as the demand for shipping facilities remained acute.

Unfortunately the uncertainties of post-war markets joined with the new efficiency of the railroads to divert an increasing proportion of Rochester's exports from the canal. Shippers could better afford the higher freights of the railroads than the possible losses resulting from slow deliveries. Long delays in canal shipments seemed on the increase, as frequent breaks in the banks tied up traffic. The most serious break to occur in the Rochester area had been that at the Oxbow a few miles east of the city in November, 1864. Repairs had cost the state $78,000, but the losses of the boatmen, many of whom failed to deliver their cargoes that year, were never tabulated.

Many factors contributed to the canal's disfavor during Reconstruction years. Rumors that corrupt politicians had secured control of the contracts for repairs would not down, and when Governor Tilden made his heroic exposure of the boodlers in his own party

who had manipulated canal contracts to their private advantage, two prominent Monroe County Democrats were included on the list. The Lords, Jarvis and George D., were quickly replaced by an honest Democrat and former mayor, Henry L. Fish, long one of Rochester's most loyal and resourceful friends of the canal. A canal forwarder himself in earlier days, Fish had made a careful study of needed improvements, and many were achieved under his direction in the early eighties. But, significantly enough, most of the improvements in which Rochester was now interested involved bridges, safety locks, fences and other devices to protect citizens or enable them to get across or around the canal without injury. The canal was threatening to become more of a nuisance than an asset, and even such an astute politician as Freeman Clarke openly questioned the desirability of its continued maintenance.

Freeman Clarke, banker and politician, was also a railroad man, which discounted his opinion of the canal, but many friends of the old waterway were convinced by the early eighties that the only chance to save the canal trade from extinction lay in the abolition of tolls. The facts that the Erie had long since paid off all its indebtedness, including the interest and maintenance charges, and had netted a handsome surplus of $42, 599, 717 for the state by 1882, seemed to justify the abolition of all tolls that year. Unfortunately, advocates of this policy failed to realize that the canal's maintenance costs would henceforth have to be appropriated and that a hostile or indifferent legislature could soon stifle its life. Only a few years were required to demonstrate this danger, for by the late eighties repairs had been so widely neglected that a wave of canal breaks occurred, stalling hundreds of boats for weeks at a time and provoking the aged Henry L. Fish to declare from his retirement that criminal negligence alone could account for the frequent disasters. The year's tonnage on the canal was nevertheless good, though most of it was heavy, low-value freight, and of course most of the boats, many of them pulled by steam, passed through Rochester without stopping.

The big problem confronting Rochester boatmen throughout the canal's last half-century was the discovery of a new pay load. Flour barrels had practically disappeared from local boat docks within a decade after Appomattox, and no substitute cargo could be found. For a time apples seemed to offer a solution, for the tonnage and value of such shipments had mounted rapidly during the war. Un-

fortunately, the danger of a break late in the season, or of a sudden freeze up, checked the growth of fruit shipments, diverting them to other routes, though the decline of apple tonnage was slower than that of other perishables. The local freighting business slumped rapidly during the seventies, reaching an all-time low of 13,391 tons in 1876. It was saved only by the development of a new traffic in stone, lime and clay, late in the decade, and in coal after the completion of the Rochester & Pittsburgh Railway in the early eighties made Rochester a point of transhipment for that essential article.

That of course had been the nature of the shipments from most of the active canal ports for a long time. In fact, out-of-state produce had comprised 90 per cent of the east-bound freight as early as 1866, accounting for most of the shipments from Buffalo and Oswego. Inland ports benefitted in proportion to their demand for these raw materials, their participation in the boating business, or their position as points of transhipment from intersecting highways.

Rochester now participated in all three respects. Western wheat still comprised its major import and coal quickly became a chief export. The old trade of boat building remained a specialty. Five boat yards employed 90 men in 1880, turning out scows valued at $2600 and "lakers" at $4200 each and producing a greater total value of canal boats than any other city in the country. Local builders continued to experiment with new propeller devices, although Buffalo now manufactured most of the steam tugs used on the canal. A Rochester inventor even developed a method for propelling canal boats by electricity, stringing a wire for some distance along the canal in Brighton and attaching a trolley pole to his experimental boat. The demonstration was pronounced successful, but apparently the problem of capitalizing the electrification of the canal proved insurmountable, for nothing further was heard of the venture.

Although Rochester no longer took the lead in campaigns for canal improvements, its support could always be relied upon. The state engineer's proposal of 1884, that the Erie be replaced by a ship canal 18 or 20 feet deep and 200 feet wide, gained the endorsement of the Rochester Chamber of Comerce in 1893 when the project came up for debate. This was but one of a series of proposed enlargements, all of which received token support from Rochester, but the "City of Many Industries" could no longer be moved to battle earnestly for a slow and uncertain freight route. The only enthusiasms associated

with the canal in these years centered around the use of a straight stretch of its bed for horse racing in winter months and a revival of ice skating in the aqueduct.

In view of this growing indifference, observers were surprised when Rochester's canal trade suddenly staged a revival during the late nineties. Coal, gravel, and clay contributed to the tonnage increase, achieving and holding a new high for several years, but the great boost in value of shipments (which reached $7,114,112 in 1900, the second highest figure in local canal history) came from a group of exports described vaguely as "all other merchandise."

Yet, striking as these increases appeared on paper, they were almost overlooked by the public generally. Rochester had of course grown to such size by the turn of the century that shipments even of these proportions played a smaller part in the city's economy than had the stagnating canal trade of the late fifties. Nevertheless, for a time, the trend was upward, and this fact alone helped boosters in the Chamber of Commerce to justify an endorsement of the campaign for a Barge Canal in the early 1900's. Local shipments started to drop again, even before that important project was approved in 1904, but interest was then easily sustained by the prospect of sharing in the construction work.

When the news reached Rochester that the route of the Barge Canal would skirt the southern edge of the city, crossing the river in the pond of a new state dam to be built for this purpose, a heated debate occurred. A few friends of the old canal protested the abandonment of its route through the city, but most citizens viewed that prospect with pleasure. All the former indignities suffered from the canal were recalled: the surface traffic delays experienced at numerous street crossings when the lift bridges were up to permit the passage of boats; the stagnant water and filth that invariably accumulated each year; the annual toll of drownings; the rowdyism which had never been outgrown. Indeed Rochester was so eager to see the old ditch closed that interest shifted almost immediately to proposals for its new use.

The proposals were many and varied. One artist recommended a conversion of the aqueduct into a flower-decked promenade; but the suggestion that the city acquire the full length of the canal route within its borders and use it as a depressed artery for the entry of the suburban trollies soon gained wide favor. Rochesterians de-

bated the subway project for nearly five years before the city determined to pay the state's asking price of $1,250,000. Meanwhile, the construction crews on the Barge Canal were making slow but steady progress. The first boat steamed by Rochester in 1918, and more appeared the next year, which was also the last season for the old Erie.

The retirement of the Erie Canal, after nearly a century of service, passed almost unnoticed at Rochester, but the city could not so easily forget the many great benefits it had conferred. A fitting celebration was accordingly staged a decade later when a bronze marker, commemorating the passing of the Erie Canal, was mounted on the wall of the City Hall at the corner of Broad and Fitzhugh Streets, the site of the official ceremonies in honor of the canal's opening more than a century before.

BIBLIOGRAPHICAL NOTE: The sources for this account include the annual reports of the Canal Commissioners, later of the Superintendent of Public Works, in the N. Y. State *Documents;* the two volume *Laws . . . in Relation to the Erie Canal . . .* (Albany, 1825); Nobel E. Whitford, *History of the Canal System of the State of New York* (New York, 1906); Cadwallader D. Colden, *Memoir . . . of the Celebration* (New York, 1825); Alvin F. Harlow, *Old Towpaths* (New York, 1926); James Renwick, *Report on the Mode of Supplying the Erie Canal with Water* (Rochester, 1846); S. B. Ruggles, *Vindication of the Canal Policy of New York of 1838* (New York, 1849); H. P. Marsh, *Rochester and Its Early Canal Days* ([Rochester], 1914); occasional articles on the canal in *Hunt's Merchants Magazine;* and numerous contemporary items from the Rochester papers. More detailed references may be found in Blake McKelvey, *Rochester the Water-Power City: 1812-1854* and *Rochester the Flower City: 1855-1890* (Cambridge, 1945, 1949).